

Application No. 10/507,408
Amendment dated December 12, 2006
Amendment in response to Office Action September 12, 2006

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REMARKS AND ARGUMENTS

Rejection under 35 USC § 102

Claims 1-11, 13 and 27 are rejected under 35 USC § 102(b) as being anticipated by US Patent Number 3,931,613 (Gruner). Claims 2-4, 10-11 and 27 have been canceled without prejudice. With respect to the remaining claims, Applicants respectfully disagree.

Claims 1 and 15 recite a method for sharing a memory module between a plurality of processors. The memory module is divided into at least two banks, wherein each bank can be accessed by a plurality of processors at any one time. Claim 9 recites a system having a plurality of processors and a memory module. The memory module can be accessed by a plurality of processors at any one time.

Gruner describes a data processing system which includes a single memory system shared by four processors. See Gruner, Fig. 11 (elements 10, 11, 12, 13 and 14). The processors are grouped into first and second pair groups. The groups access the memory at different time frames. See Gruner, Fig. 12 and col. 12 at lines 47-51. Therefore, within the time frame allocated to a group, only one processor within that group can access the memory. Furthermore, within each time frame, only one processor can access the memory at a time. Gruner nowhere teaches or suggests that a plurality of processors can access a bank of the memory module at any one time, as required by the present claims 1, 9 or 15. In fact, the memory system of Gruner cannot support access by more than one processor at any one time since there is only a single address bus and memory data bus. See Gruner, Fig. 11 (elements 16 and 17). Applicants therefore submit that claims 1, 9 and 15 are patentable over Gruner. Since claims 5-8, 12-14, 18-21 and 23-26 are directly or indirectly dependent on claim 1, 9 or 15, these claims are also patentable over Gruner.

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Rejection under 35 USC § 103

Claim 12 is rejected under 35 USC § 103(a) as being unpatentable over Gruner and in view of US Patent Number 5,857,110 (Sakakibara). Applicants respectfully disagree.

As previously discussed, Gruner nowhere teaches or suggests providing a memory module having a memory bank which can be accessed by a plurality of processors at any one time. Sakakibara describes an arbitrator for determining priority of memory accesses. However, like Gruner, Sakakibara nowhere teaches or suggests a memory bank which can be accessed by a plurality of processors at any one time. Applicants therefore submit that claim 12 is patentable over Gruner and Sakakibara, alone or in combination. Withdrawal of the rejection to claim 12 based on USC § 103(a) is respectfully requested.

Claim 14-26 are rejected under 35 USC § 103(a) as being unpatentable over Gruner in view of "The Cache Memory Book" (Handy). Claims 16, 17, 19 and 22 have been canceled without prejudice. With respect to the remaining claims, Applicants respectfully disagree.

Handy describes a processing system having a cache memory coupled to the processor and memory module. However, like Gruner, Handy nowhere teaches or suggests a memory module having a memory bank which can be accessed by a plurality of processors at any one time. Applicants therefore submit that claims 14-15, 18, 20-21 and 23-26 are patentable over Gruner and Handy, alone or in combination. Withdrawal of the rejection to these claims based on USC § 103(a) is respectfully requested.

Double Patenting

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application 10/494,808. A duly executed terminal disclaimer has been filed with this response. Applicants therefore submit that the nonstatutory obviousness-type double patenting rejection has been overcome and respectfully request its withdrawal.

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Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance and the issuance of a formal Notice of Allowance at an early date is respectfully requested.

Should the Examiner believe that a telephone conference would expedite prosecution of this application, please telephone the undersigned attorney at his number set out below.

Date: December 12, 2006

Respectfully submitted,



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